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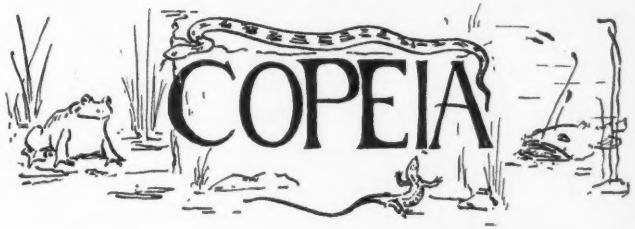

Published to advance the Science of cold-blooded vertebrates

THE BROOK LAMPREY IN NEW JERSEY

In the spring of 1909 Mr. Charles E. Sleight of Ramsey, New Jersey, collected a considerable number of Brook Lampreys in Gœtschius' Brook near the culvert of the Erie railroad, about one-quarter of a mile from the Ramsey railroad station. The brook here flows through an open meadow, and Mr. Sleight says that the lampreys were observed there in the spring of several years, but that none have been seen since 1909. He kindly presented the writer with three of these odd fish, the largest one of which is 5 11/16 inches in length, and has the anal papilla well developed.

As the Brook Lamprey is an addition to Dr. Henry W. Fowler's Fishes of New Jersey, the specimens have been submitted to him. He confirms the identification and says that the species should be known as *Lampetra aepyptera* (Abbott), as pointed out in "Notes on Lancelets and Lampreys," Proceedings Acad. Nat. Sci. Phil., Dec., 1907, p. 466. The type of this species is in the Academy's collection and came from the Ohio River. *Lampetra wilderi* Gage, Dr. Fowler considers a synonym. Under this latter name there is an interesting account, in the Transactions, N. Y. Acad. Sciences, May 10, 1897, by Bash-

ford Dean and Francis B. Sumner, of the spawning habits of the Brook Lamprey as observed about one mile north of Van Cortlandt Park, New York City. These two records are, as far as known, the only ones for the species in this vicinity.

WM. T. DAVIS,
New Brighton, N. Y.

NOTE ON THE HABITS OF THE YOUNG OF THE SQUIRREL HAKE AND SEA SNAIL

During the oceanographic cruise of the U. S. Fisheries schooner *Grampus* in the summer of 1913, large quantities of the Giant Scallop were dredged at many points on the continental shelf between Nantucket Lightship and the Virginia capes. In a number of instances these scallops were found to contain young examples of the squirrel hake, *Urophycis chuss* (Walbaum), ranging in length from 27 to 70 mm. With one exception all were taken in the region between Montauk Point and Cape May, and within the 20 fathom curve. The only occurrence at a greater depth was in 42 fathoms, 52 miles S.S.E. from Montauk Point.

Whether these young hake habitually live within the mantle cavity of the scallop, or whether they merely use it as a refuge on the approach of an enemy, is not known. The latter hypothesis appears to be the more plausible one. In the six dredge hauls in which young hake were thus taken, 27 examples were obtained from 59 scallops. In one instance, 11 hake were obtained from 9 scallops.

During the same cruise a number of young examples of the sea snail, *Liparis liparis* (Linnæus) were obtained from the mantle cavities of scallops at two stations, as follows:

Forty-five miles E.S.E. from Assateague, Va., in 30 fathoms, and 45 miles E. by S. from Cape Charles,

in 25 fathoms. These ranged in length from 20 to 29 mm. So far as known, this species has not been reported from so far south. A single example was also found in a scallop taken in 37 fathoms, 16 miles S. from Nantucket Lightship.

W. W. Welsh,
U. S. Bureau of Fisheries.

FURTHER NOTES ON THE SALIENTIA OF JACKSONVILLE, FLA.

Hyla pickeringii Storer, the "Spring peeper," is rather rare here, only two small "bayous" containing very few specimens having been found by the writer. These places were about six miles apart. I have heard this species sing only in December.

Hyla squirella Bosc., the commonest of the southern tree-toads, is found everywhere, in cornfields, sugar cane, about wells and under the eaves of stable roofs, barns, outhouses, etc. After a heavy thunder shower in September, 1911, hundreds of these little tree toads could be seen hopping along the country roads outside of Jacksonville. That same night the writer took 32 specimens from a velvet bean vine on the blank side of his cottage. The cry is rather coarse, sounding like: "Cra, cra, cra," etc., with a second's interval between each note. This species is noted for its rapid color changes.

Hyla femoralis Latreille is called the Pine tree toad, from its habit of frequenting the tops of pine trees almost exclusively, during the summer months. It resembles our own gray tree toad, with its rough skin and star-shaped dark patch on the back, but is smaller and more slender. Its usual color is dark reddish-brown or chestnut, but it can readily change from fleshy pink or pale gray to any shade of brown, gray or green. It is one of the shyest of tree toads, rarely caught except during the breeding season, when it frequents certain "bayous" in thousands. The

noise resulting from the calls of the males on these occasions, is deafening. This call cannot be reproduced on paper, being a rapid succession of harsh, rattling notes, higher in pitch than the call of *H. squirella,* and kept up all night. During the dry season this tree toad occasionally calls from the tops of the pine trees, one answering the other.

Hyla cinerea, Daud., is an aristocratic looking tree toad, with its long, slender figure of the brightest green, edged on each side with a band of pale gold or silvery white. Its size is larger than any of the preceding species, often reaching 2½ inches from snout to vent. Occasionally met with on corn fields, its chief haunts, however, seem to be the shores of the creeks, where it occurs in scattered companies on the water hyacinths and bulrushes. Its call sounds like: "Grab, grab, grabit, grabit," etc., uttered in a shrill, loud voice, and has a startling resemblance to the human voice. One would never think the call came from a frog. Although a powerful leaper, it is easily caught when once located, as it is not at all shy. This species seems to have no special breeding season, and is never heard in the early spring, when the majority of the other frogs and toads congregate at the shallow "bayous."

Hyla gratiosa, Le Conte, the Florida tree toad, is a handsome species, and the largest of the North American tree toads, reaching a length of 3¼ inches from snout to vent. It is heavily built, with large adhesive disks on fingers and toes. It differs from all other species in its evenly granulated skin, and regular pattern of roundish spots. The color is ashen gray, purplish or green of some shade. The spots are darker than the ground color, evenly distributed over the upper surfaces, and may be absent when the frog changes to pale golden green. The arms and legs are banded. The throat of the male is rich chrome yellow or green. It is not very plentiful anywhere, and rarely met with outside the breeding season. Dur-

ing the latter time it comes down out of the trees, and small companies of from four to ten specimens, in widely scattered pools or "bayous," attend to their breeding duties amid the loud calls of the males. The call can be heard for over a mile, and sounds like a large gong, or church bell, being of unusual depth, and very clear, with a second's interval between each dual note. The male, while singing, floats in the water, the large vocal sac throwing the frog into a vertical position with every utterance. The eggs are laid singly and sink to the bottom of the pool. I have never heard this species call except during the breeding season, which lasts from March to June, beginning with the first warm rains.

RICHARD F. DECKERT,
New York, N. Y.

LIST OF AMPHIBIANS AND REPTILES OBSERVED IN THE SUMMERS OF 1912, 1913 AND 1914, IN NELSON COUNTY, VIRGINIA

Nelson county is partly in the Piedmont section of Virginia and partly in the Blue Ridge. The collecting was mostly on the James River, in the Piedmont section, about 40 miles below Lynchburg, at an altitude of 400 to 600 feet. The figures refer to actual records in my notebook. Where the common names are given they are those in use for the species in Nelson County.

Desmognathus fusca (Rafinesque).

Diemictylus viridescens (Rafinesque). Both land and water forms. Land form "ground puppy," water from "spring lizard."

Bufo americanus Holbrook. "Toad." Very common.

Acris gryllus crepitans (Baird). Common locally.

Hyla versicolor Le Conte. "Tree toad."

Rana catesbeiana Shaw. "Bull frog."

Rana clamata Daudin.

Rana palustris Le Conte.

Carphophiops amoenus (Say).

Regina leberis (Linnæus) 25+. Common.

Natrix sipedon (Linnæus). "Water snake, or water moccasin." 98. Very common.

Elaphe guttatus (Linnæus). "Corn snake." "Brown sedge snake." "Mole catcher"? 6.

Elaphe obsoletus (Say). "Scaly, or rusty black snake." "Pilot." 8.

Storeria occipitomaculata (Storer). 2.

Storeria dekayi (Holbrook). 1.

Opheodrys aestivus (Linnæus). "Green snake." 13.

Virginia valeriae Baird and Girard. 2.

Diadophis punctatus (Linnæus). "Fodder snake." 3.

Coluber constrictor Linnæus. "Slick black snake." "Hoop snake"? "Cow sucker"? "Horse racer"? 22+. common.

Thamnophis sirtalis (Linnæus). 6. Not rare.

Lampropeltis rhombomaculatus (Holbrook). "House snake"? "Ground snake." "Molecatcher." 10.

Lampropeltis getulus (Linnæus). "King snake." "Master snake." "Black moccasin." "Cowsucker"? 9.

Heterodon platirhinos Latreille. "Spread-head moccasin." 4 and a nest of 34 eggs.

Agkistrodon contortrix (Linnæus). "Copperhead." "Highland moccasin." 12.

Crotalus horridus Linnæus. "Rattlesnake." Locally common. 1.

Eumeces fasciatus (Linnæus). "Scorpion" or "scarapin." 13.

Cnemidophorus sexlineatus (Linnæus). 26+. Locally common.

Sceloporus undulatus (Latreille). "Fence lizard." 92+. Very common.

Chelydra serpentina (Linnæus). "Turtle." "Snapping turtle."

Kinosternon pensylvanicum (Gmelin).

Pseudemys rubriventris (Le Conte).

Chrysemys picta (Schneider). "Skilpot." Common.

Terrapene carolina (Linnæus). "Dry land terrapin." Common.

E. R. Dunn,
Philadelphia, Pa.

NEW COLOR VARIATION OF STORERIA OCCIPITOMACULATA

During the first week in August, 1914, I collected a small black-colored snake near Cammal, Pa. It attracted my attention, as I was not familiar with the coloration that was presented. Examination revealed a peculiar phase of the red-bellied snake, of which I was unable to find a description in any of the standard works upon reptiles. Through the courtesy of the Academy of Natural Sciences of Philadelphia, I was permitted to examine the varieties of red-bellied snakes in their collection. In looking over the specimens I found one that simulated mine. This reptile was collected at Johnsonburg, Elk County, Pa., by Cope. He described it as being a very dark brown, with the dorsal band obscure, and the under surfaces black. The throat and chin were whitish, and the black darkest in a row of spots on each side of a dozen anterior gastrosteges. The reptile I found measured 24 cm., was distinctly black on the dorsal and ventral surfaces, the throat and chin white, sprinkled with small black spots; the stripes on the sides could only be detected by having the light strike the reptile in a certain manner. When the two reptiles were placed side by side, Cope's specimen was lighter in color, both on the dorsal and ventral surfaces; the stripes on Cope's specimen could readily be seen as compared with the reptile under discussion.

R. D. Spencer,
Philadelphia, Pa.

NUMBER OF YOUNG PRODUCED BY THE COMMON GARTER SNAKE

Definite records of the number of young produced by any species of reptiles are always interesting and valuable to those interested in the life history of animals. The following observations concerning the number of young produced by the common Garter Snake (*Thomnophis sirtalis*), may therefore be worth recording.

This snake is well known to be viviparous. It is the most abundant snake in the vicinity of Lake Maxinkuckee, Indiana. On July 26, 1900, a female three feet long, was killed by me just west of the lake. Upon cutting it open 40 young snakes, each six to seven inches long, were taken from the mother's body.

This number we thought very large, but Dr. J. Schenck, of Mt. Carmel, Illinois, records 78 young each three to seven inches long, taken from a female of this species 35 inches long.

Does any reader of COPEIA know of a record of a larger number?

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San Francisco, Cal.

Edited by J. T. NICHOLS, American Museum of Natural History

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